

#4

## RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.

Application Serial Number: 16/533811  
Source: PCT  
Date Processed by STIC: 5/12/5

# ***ENTERED***



PCT

## RAW SEQUENCE LISTING

DATE: 05/12/2005

PATENT APPLICATION: US/10/533,811

TIME: 08:09:33

Input Set : A:\Sequence Listing.txt

Output Set: N:\CRF4\05122005\J533811.raw

3 <110> APPLICANT: THE GOVERNMENT OF THE UNITED STATES OF AMERICA AS  
 4 REPRESENTED BY THE SECRETARY OF THE DEPARTMENT OF HEALTH AND  
 5 HUMAN SERVICES  
 6 Valenzuela, Jesus G.  
 7 Ribeiro, Jose M.C.  
 8 Barral, Aldina  
 9 Netto, Manoel  
 10 Brodskyn, Claudia  
 11 Gomes, Regis  
 13 <120> TITLE OF INVENTION: LU. LONGIPALPIS POLYPEPTIDES AND METHODS OF USE  
 15 <130> FILE REFERENCE: 4239-67028-08  
 C--> 17 <140> CURRENT APPLICATION NUMBER: US/10/533,811  
 C--> 17 <141> CURRENT FILING DATE: 2005-04-29  
 17 <150> PRIOR APPLICATION NUMBER: US 60/422,303  
 18 <151> PRIOR FILING DATE: 2002-10-29  
 20 <150> PRIOR APPLICATION NUMBER: PCT/US2003/034453  
 21 <151> PRIOR FILING DATE: 2003-10-29  
 23 <160> NUMBER OF SEQ ID NOS: 73  
 25 <170> SOFTWARE: PatentIn version 3.3  
 27 <210> SEQ ID NO: 1  
 28 <211> LENGTH: 271  
 29 <212> TYPE: PRT  
 30 <213> ORGANISM: Lutzomyia longipalpis  
 32 <400> SEQUENCE: 1  
 34 Met Leu Gln Ile Lys His Leu Leu Ile Phe Val Gly Leu Leu Val Val  
 35 1 5 10 15  
 38 Val Asn Ala Gln Ser Asn Tyr Cys Lys Gln Glu Ser Cys Ser Ser Gly  
 39 20 25 30  
 42 Gly Val Glu Arg Pro His Ile Gly Cys Lys Asn Ser Gly Asp Phe Ser  
 43 35 40 45  
 46 Glu Thr Cys Ser Gly Asp Ala Glu Ile Val Lys Met Asp Lys Lys Lys  
 47 50 55 60  
 50 Gln Asn Leu Leu Val Lys Met His Asn Arg Leu Arg Asp Arg Phe Ala  
 51 65 70 75 80  
 54 Arg Gly Ala Val Pro Gly Phe Ala Pro Ala Ala Lys Met Pro Met Leu  
 55 85 90 95  
 58 Lys Trp Asn Asp Glu Leu Ala Lys Leu Ala Glu Tyr Asn Val Arg Thr  
 59 100 105 110  
 62 Cys Lys Phe Ala His Asp Lys Cys Arg Ala Ile Asp Val Cys Pro Tyr  
 63 115 120 125  
 66 Ala Gly Gln Asn Leu Ala Gln Met Met Ser Tyr Pro Thr His Arg Asp  
 67 130 135 140  
 70 Leu Asn Tyr Val Leu Lys Asn Leu Thr Arg Glu Trp Phe Trp Glu Tyr

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71 145          150          155          160
74 Arg Trp Ala Lys Gln Ser Gln Leu Asp Asn Tyr Val Gly Gly Pro Gly
75          165          170          175
78 Lys Asp Asn Lys Gln Ile Gly His Phe Thr Ala Phe Val His Glu Lys
79          180          185          190
82 Thr Asp Lys Val Gly Cys Ala Ile Ala Arg Phe Thr Asn Glu His Asn
83          195          200          205
86 Phe Lys Glu Thr Leu Leu Ala Cys Asn Tyr Cys Tyr Thr Asn Met Met
87          210          215          220
90 Lys Glu Arg Ile Tyr Thr Gln Gly Lys Pro Cys Ser Gln Cys Gln Ser
91 225          230          235          240
94 Lys Lys Cys Gly Pro Val Tyr Lys Asn Leu Cys Asp Pro Ser Glu Lys
95          245          250          255
98 Val Asp Pro Thr Pro Asp Val Leu Lys Gln Trp Lys His Gly Lys
99          260          265          270
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103 <211> LENGTH: 905
104 <212> TYPE: DNA
105 <213> ORGANISM: Lutzomyia longipalpis
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110 tgggattgct cgtggttggt aatgcacaga gcaattactg caaacaggaa tcgtgctcat      120
112 cgggaggtgt tgagagaccc catattgggt gcaaaaactc tggagatttt tccgaaactt      180
114 gtcctcgaga tgcagaaatt gttaagatgg acaagaagaa gcagaacctc cttgtgaaaa      240
116 tgcacaatcg cctgagagat agatttgctc gtggtgcagt gccaggtttt gcaccagctg      300
118 cgaaaatgcc aatgcttaaa tggaacgatg aactggccaa attggcagag tacaacgtga      360
120 gaacgtgcaa atttgcccac gataaatgcc gcgcaattga tgtctgcccc tatgctggac      420
122 agaactagc tcaaatgatg tcctatccta cccatcgaga tctaaactat gttcttaaga      480
124 atctcacaag ggaatggttc tgggagtaca gatgggctaa gcaatctcag cttgataatt      540
126 acgtgggtgg tcctgggaaa gacaacaaac aaattggaca tttcacagct tttgtgcatg      600
128 agaaaacaga caaagtggga tgcgctatag ctcgatttac aaatgagcac aattttaagg      660
130 agaccctcct agcttgcaac tactgtctaca cgaatatgat gaaggagagg atctacacgc      720
132 agggaaaacc ttgttcacag tgtcagagca aaaagtgtgg gccagtctac aagaacctgt      780
134 gtgacccctc ggagaagggt gatccaactc ctgatgtcct taagcaatgg aagcatggaa      840
136 aatgattatt aagctcactt caaatgtttc caatccaaaa aaaaaaaaaa aaaaaaaaaa      900
138 aaaaaa                                         905
141 <210> SEQ ID NO: 3
142 <211> LENGTH: 159
143 <212> TYPE: PRT
144 <213> ORGANISM: Lutzomyia longipalpis
146 <400> SEQUENCE: 3
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149 1          5          10          15
152 Cys Asn Ala Glu Glu Leu Ile Glu Arg Lys Leu Thr Gly Lys Thr
153          20          25          30
156 Ile Tyr Ile Ser Thr Ile Lys Leu Pro Trp Phe Gln Ala Leu Asn His
157          35          40          45
160 Cys Val Lys Asn Gly Tyr Thr Met Val Ser Ile Lys Thr Phe Glu Glu
161          50          55          60

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164 Asn Lys Glu Leu Leu Lys Glu Leu Lys Arg Val Ile Arg Thr Glu Asp
165 65 70 75 80
168 Thr Gln Val Trp Ile Gly Gly Leu Lys His His Gln Phe Ala Asn Phe
169 85 90 95
172 Arg Trp Val Ser Asp Gly Ser His Val Ala Thr Ala Ser Gly Tyr Thr
173 100 105 110
176 Asn Trp Ala Pro Gly Glu Pro Ala Asp Ser Phe Tyr Tyr Asp Gln Phe
177 115 120 125
180 Cys Met Ala Met Leu Phe Arg Lys Asp Gly Ala Pro Trp Asp Asp Leu
181 130 135 140
184 Asn Cys Trp Val Lys Asn Leu Phe Val Cys Glu Lys Arg Asp Asp
185 145 150 155
188 <210> SEQ ID NO: 4
189 <211> LENGTH: 617
190 <212> TYPE: DNA
191 <213> ORGANISM: Lutzomyia longipalpis
193 <400> SEQUENCE: 4
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196 gcttcgttcc ttgtttgttc tttttctaata tttcttaaca ttctgcaacg ctgaggaaga 120
198 acttattgag agaaagttaa caggaaaaac gatctatatc tcaacaataa agcttccgtg 180
200 gttccaagct cttaatcatt gtgttaaaaaa tgggtacaca atggtgtcaa ttaagacatt 240
202 tgaagagaat aaagaactcc ttaaagaact caaaagggtg attaggacag aagatacaca 300
204 agtttgatt ggaggcctca aacatcatca atttgcaaac tttcgttggg taagcgatgg 360
206 aagccacgta gcaacagctt cagggtacac caattgggcc ccaggggagc cagctgattc 420
208 cttctattac gatcaatttt gcatggcgat gttgttcaga aaagacggcg ctccgtggga 480
210 tgatttgaat tgttgggtta agaatctttt tgttgtgag aaacgagatg attgagaggc 540
212 tatttttgtt atctcaccgt tttgttgaat aaaaaagaag aagaaaagaca aaaaaaaaaa 600
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217 <210> SEQ ID NO: 5
218 <211> LENGTH: 304
219 <212> TYPE: PRT
220 <213> ORGANISM: Lutzomyia longipalpis
222 <400> SEQUENCE: 5
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225 1 5 10 15
228 Thr Ser Asn Gly Ala Leu Thr Gly Asn Glu Ser Ala Ala Asn Ala Ala
229 20 25 30
232 Pro Leu Pro Val Val Leu Trp His Gly Met Gly Asp Ser Cys Cys Phe
233 35 40 45
236 Pro Phe Ser Leu Gly Ser Ile Lys Lys Leu Ile Glu Gln Gln Ile Pro
237 50 55 60
240 Gly Ile His Val Val Ser Leu Lys Ile Gly Lys Ser Leu Ile Glu Asp
241 65 70 75 80
244 Tyr Glu Ser Gly Phe Phe Val His Pro Asp Lys Gln Ile Gln Glu Val
245 85 90 95
248 Cys Glu Ser Leu Gln Asn Asp Leu Thr Leu Ala Asn Gly Phe Asn Ala
249 100 105 110
252 Ile Gly Phe Ser Gln Gly Ser Gln Phe Leu Arg Gly Leu Val Gln Arg
253 115 120 125

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256 Cys Ser Ser Ile Gln Val Arg Asn Leu Ile Ser Ile Gly Gly Gln His
257      130                      135                      140
260 Gln Gly Val Phe Gly Leu Pro Tyr Cys Pro Ser Leu Ser Arg Lys Thr
261 145                      150                      155                      160
264 Cys Glu Tyr Phe Arg Lys Leu Leu Asn Tyr Ala Ala Tyr Glu Lys Trp
265                      165                      170                      175
268 Val Gln Lys Leu Leu Val Gln Ala Thr Tyr Trp His Asp Pro Leu Asn
269                      180                      185                      190
272 Glu Asp Ala Tyr Arg Thr Gly Ser Thr Phe Leu Ala Asp Ile Asn Asn
273                      195                      200                      205
276 Glu Arg Gln Ile Asn Asn Asp Tyr Ile Asn Asn Ile Arg Lys Leu Asn
277      210                      215                      220
280 Arg Phe Val Met Val Lys Phe Leu Asn Asp Ser Met Val Gln Pro Ile
281 225                      230                      235                      240
284 Glu Ser Ser Phe Phe Gly Phe Tyr Ala Pro Gly Thr Asp Thr Glu Val
285                      245                      250                      255
288 Leu Pro Leu Lys Gln Ser Lys Ile Tyr Leu Glu Asp Arg Leu Gly Leu
289                      260                      265                      270
292 Gln Ser Val Pro Ile Asp Tyr Leu Glu Cys Gly Gly Asp His Leu Gln
293                      275                      280                      285
296 Phe Thr Lys Glu Trp Phe Ile Lys Phe Ile Ile Pro Tyr Leu Lys Gln
297      290                      295                      300
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301 <211> LENGTH: 1273
302 <212> TYPE: DNA
303 <213> ORGANISM: Lutzomyia longipalpis
305 <400> SEQUENCE: 6
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308 ttaacaaaaat tgctccattt tttcgttttc tgaatattct gttgaaattt tgattaatct      120
310 attttatgtg cagttttttac taaaaatccc ttatcagcaa cccggtgtct acagttttgt      180
312 cacgctcagt agcatcttca aggttgtaag aaaaaaatgaa actcctgcaa atcatcttct      240
314 ctctcttctt ggtctttttc ccgacctcaa atggggccct gaccggaaat gaaagtgcag      300
316 caaatgcagc tcccttgctt gtcgtcctgt ggcacgggat gggcgattct tgctgctttc      360
318 ccttcagttt gggaagcata aaaaaattaa ttgaacaaca aattcctggg attcatgttg      420
320 ttagcctgaa aattggaaaag tctctcattg aggactatga aagtggattt tttgttcac      480
322 cagacaagca aattcaggaa gtttgtgagt cacttcagaa cgatctaaca ctcgcaaatg      540
324 gattcaatgc aattggattt tctcagggtg gtcagttcct gcgaggtcct gtgcaacgat      600
326 gttcttctat acaagtaagg aatctcatth ccattggagg acagcatcaa ggggtttttg      660
328 gtctgcccta ttgtccttcg ttgagcagaa agacttgcga atactttaga aagctcctga      720
330 attatgcagc ttatgaaaaa tgggtacaga aactcctagt tcaagccacc tactggcatg      780
332 atcctctaaa tgaggatgca tatcggactg gaagcacttt ccttgctgat ataaataatg      840
334 agagacaaat caataatgac tatattaata atattcggaa gctaaatcgt tttgtgatgg      900
336 taaagttcct caacgacagc atgggtcagc caattgaatc tagtttcttt ggattctacg      960
338 ctccaggaac tgatacagaa gttctcccat taaaacaaaag caagatttat ttggaagatc      1020
340 gtttgggact tcaatcagta ccgatagatt atctagaatg cggaggagat catttgcaat      1080
342 ttacaaaaga atggttcata aagtttatca taccctatct gaagcaataa gagctgcaat      1140
344 gtaattgatt aaaaaatggt aaccatttca ggatgattgg gtgaccctt aaaaaataa      1200
346 atgaaaaaat atacaaaaga aataaatttt tatattgatc ccacaaaaaa aaaaaaaaaa      1260
348 aaaaaaaaaa aaa                                     1273

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Input Set : A:\Sequence Listing.txt

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351 <210> SEQ ID NO: 7
352 <211> LENGTH: 102
353 <212> TYPE: PRT
354 <213> ORGANISM: Lutzomyia longipalpis
356 <400> SEQUENCE: 7
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359 1 5 10 15
362 Cys Ala Trp Pro Ile Asn Ala Glu Asp Asn Glu Glu Val Gly Lys Ala
363 20 25 30
366 Arg Glu Lys Arg Gly Leu Lys Asp Ala Met Glu His Phe Lys Asn Gly
367 35 40 45
370 Phe Lys Glu Leu Thr Lys Asp Phe Lys Leu Pro Ser Leu Pro Ser Leu
371 50 55 60
374 Pro Gly Phe Gly Lys Lys Pro Glu Ser Gly Ser Ser Glu Asp Ser Gly
375 65 70 75 80
378 Asp Lys Thr Glu Asp Thr Ser Gly Ser Lys Asp Asp Gln Ser Lys Asp
379 85 90 95
382 Asn Thr Val Glu Glu Ser
383 100
386 <210> SEQ ID NO: 8
387 <211> LENGTH: 466
388 <212> TYPE: DNA
389 <213> ORGANISM: Lutzomyia longipalpis
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394 ctgtagtcag tttagccgtt gctgtcctgc tcttctgtgc atggcctata aatgcggaag 120
396 ataatagaaga agttggaaaag gcgagagaaa aaagaggctt aaaagacgca atggaacact 180
398 tcaaaaatgg atttaaggag ctgacaaaagg acttttaaact tccaagcctt ccaagtcttc 240
400 ctggatttgg taaaaagcct gaatctggaa gttctgaaga ttctggagat aaaactgagg 300
402 ataccagtgg atctaaggac gaccaatcaa aggataatac ggtcgaagaa tcttaagaaa 360
404 ggcgcaaata gctattttca aagtggcgaa tgtttctttc tttatctgaa ataaatattt 420
406 ttaaaccctt cgaaacccaa aaaaaaaaaa aaaaaaaaaa aaaaaa 466
409 <210> SEQ ID NO: 9
410 <211> LENGTH: 247
411 <212> TYPE: PRT
412 <213> ORGANISM: Lutzomyia longipalpis
414 <400> SEQUENCE: 9
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417 1 5 10 15
420 Gly Tyr Ser Trp Gln Asp Val Arg Asn Ala Asp Gln Thr Leu Trp Ala
421 20 25 30
424 Tyr Arg Ser Cys Gln Lys Asn Pro Glu Asp Lys Asp His Val Pro Gln
425 35 40 45
428 Trp Arg Lys Phe Glu Leu Pro Asp Asp Glu Lys Thr His Cys Tyr Val
429 50 55 60
432 Lys Cys Val Trp Thr Arg Leu Gly Ala Tyr Asn Glu Asn Glu Asn Val
433 65 70 75 80
436 Phe Lys Ile Asp Val Ile Thr Lys Gln Phe Asn Glu Arg Gly Leu Glu
437 85 90 95

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RAW SEQUENCE LISTING ERROR SUMMARY      DATE: 05/12/2005  
PATENT APPLICATION: US/10/533,811      TIME: 08:09:34

Input Set : A:\Sequence Listing.txt  
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:50; N Pos. 1636

VERIFICATION SUMMARY

DATE: 05/12/2005

PATENT APPLICATION: US/10/533,811

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Input Set : A:\Sequence Listing.txt

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L:17 M:270 C: Current Application Number differs, Replaced Current Application No

L:17 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:2718 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:50 after pos.:1620